

REMARKS

This Amendment is in response to the Office Action dated February 3, 2010. Applicant respectfully requests reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

I. DRAWINGS

Figures 1-3 are amended in the enclosed “replacement sheet” to contain the legend “Prior Art” as suggested in the Office Action.

II. CLAIM OBJECTIONS

Claims 1, 5, 8, 11-13, 17, and 20-21, and 23-24 were objected to for minor informalities.

With this amendment, claims 5, 8, 11-13, 17, and 20-21 are amended to replace “and/or” with “or”.

Claims 19-21, 23 and 24 are amended to provide proper antecedent basis for the term “the principal downlink channel”.

III. DOUBLE PATENTING REJECTION

Claims 1-24 are rejected on the ground of nonstatutory obviousness-type double patenting as being allegedly unpatentable over claims 26-46 of U.S. Application No. 11/547,930.

A. Allegedly Non-Distinct Claims

More precisely, the Examiner considers that the subject-matter of independent claims 1, 19, 23 and 24 (Group I) of the present patent application No. 10/589,542 are not patenably distinct from the subject-matter of claims 26, 38, 45 and 46 (Group II) of the co-pending patent application No. 11/547,930.

The Applicant respectfully contests this nonstatutory obviousness-type double patenting rejection raised by the Examiner. Indeed, the Applicant considers that the scope of Group I of the present patent application No. 10/589,542 is distinct from the scope of Group II of the co-

pending patent application No. 11/547,930.

B. Comparative Table

The following comparative table opposes the subject matter of claims of Group I (left column) to the one of claims of Group II (right column) in terms of scope. The features for which the claimed subject matter is similar are reported on the same row.

| Pending patent application No. 10/589,542 Group I | Co-pending patent application No. 11/547,930 Group II |
|---|--|
| Claim 1 : Cellular radiotelephony signal | <i>Claim 26 : Cellular radiotelephony signal</i> |
| a two-directional symmetric principal channel including a principal uplink channel and a principal downlink channel, particularly for low or medium speed transmission of signaling and control data and information | <i>main symmetric two-directional channel comprising a main uplink and a main downlink, particularly transmitting signaling and control data and information at low or medium speed</i> |
| one supplementary channel assigned to the downlink only, particularly for transmission of data at high speed, making use of a multicarrier technique for distribution of data in the time / frequency space | <i>one supplementary channel assigned to the down direction only, particularly for high speed data transmission, using a multicarrier technique for distribution of data in the time / frequency space</i> |
| and with a sub-frame type structure | <i>with a structure in predefined entities</i> |
| the beginning of at least one sub-frame of the supplementary channel is offset by a <u>time interval with a determined duration not equal to zero (Δt)</u> with respect to a <u>determined time (t_0) on the principal downlink channel</u> | <i>(no equivalence in group II)</i> |

| | |
|--|--|
| so as to enable synchronization of the supplementary channel at sub-frame level in a terminal | <i>thus obtaining synchronization of the supplementary channel at the level of the entity considered</i> |
| by detection of said <u>determined time (t0)</u> and by adding <u>said time interval (Δt)</u> . | <i>(no equivalence in group II)</i> |

C. Arguments for contesting the provisional Double Patenting objection

In light of the above comparative table, the Applicant considers that claim 1 of the present patent application No. 10/589,542 is different in scope with Group II of the co-pending patent application No. 11/547,930 in that Group II does not comprise at least the following features of Group I:

- the beginning of at least one sub-frame of the supplementary channel is offset by a time interval with a determined duration not equal to zero (Δt) with respect to a determined time (t0) on the principal downlink channel;
- by detection of said determined time (t0) and by adding said time interval (Δt).

Indeed, while the invention of Group I is based on the detection of a known time identified on the principal downlink channel, the invention of Group II is based on the detection of a position identifier transported in the supplementary channel.

In addition, in the case of Group I, once synchronization at the sub-frame level is obtained, the synchronization at chip level is also obtained, for example. In other words, there is no need to firstly synchronize the OFDM HS-DPA supplementary link at chip level, for example. Indeed, obtaining information at the beginning of a sub-frame of the OFDM HS-DPA supplementary link also provides information about the sampling point of the first chip included

in the first symbol of this sub-frame (cf. page 12 lines 15 to 21 of the substitute specification “Clean version”).

On the other hand, in case of Group II, the synchronization at chip level is necessary, for example. This synchronization at chip level is preliminary performed by the terminal. Then, the terminal performs the synchronization of the UMTS HS-DPA supplementary channel at sub-frame level, for example.

As a consequence and contrary to the Examiner’s opinion, the features of Group I do not protect similar subject matter as that defined in the claims of Group II.

In other words, although the object of Group I and the object of Group II address a similar technical problem (synchronization of a supplementary channel associated to a principal channel), these two objects are different.

IV. CLAIM REJECTIONS UNDER 35 U.S.C. § 101

Claims 1-18 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claim 1 is cancelled.

Claims 2-18 are amended to depend directly or indirectly from process claim 19.

Accordingly, all pending claims are now believed to be directed to statutory subject matter.

V. CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-11 and 14-24 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Chaudhuri et al. U.S. Publ. No. 2004/0017777 in view of Li et al. U.S. Patent No. 6,940,827, Li et al.

Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri, in view of Li, and further in view of Beasley et al. U.S. Publ. No. 2002/0187749.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhuri, in view of Li, and further in view of Attar et al. U.S. Publ. No. 2004/0181569.

A. Present Application

An example of the present patent application relates to a technique for synchronizing an OFDM HS-DPA supplementary link (supplementary channel) associated with a UMTS principal link (symmetric two-directional principal channel), at the sub-frame level.

More precisely, a general principle relates to aligning sub-frames of the supplementary channel in time with known reference times identified on the principal channel and that can therefore be determined on a terminal.

According to an exemplary technique, the beginning of at least one sub-frame of the supplementary channel is offset by a time interval with a determined duration not equal to zero (Δt) with respect to a determined time (t_0) on the principal downlink channel. Thus, the technique makes it simple to synchronize the supplementary channel, at the sub-frame level, by detection of the determined time (t_0) and by adding the time interval (Δt).

B. CHAUDHURI

CHAUDHURI describes a technique for synchronizing a mobile terminal in a radiocommunication network. CHAUDHURI's technique is used for "hand over", i.e., when the mobile terminal switches from a first transceiver (i.e., first base station) to a second transceiver (i.e., second base station) (cf. [para. 0011]). CHAUDHURI proposes to determine a timing offset between a first communication channel of a first base station and a second communication channel of a second base station (cf. [para. 0025]). For this aim, the mobile terminal determines frame offset parameters, such as OFF (cf. [para. 0040]) and T_m (cf. [para. 0041]), which are specific to the UMTS specification (cf. [0039]).

The Examiner considers that CHAUDHURI discloses a supplementary channel as recited in the present claims.

The Applicant respectfully disagrees.

Indeed, the supplementary channel as recited in the present claims is associated to the principal channel (cf. page 14, lines 8 to 9 of the substitute specification "Clean Version"). In other words, the supplementary channel as recited in the present claims is implemented by the

same base station as the one implementing the principal channel (cf. claim 24: “*Base station... including means of receiving a principal uplink channel, means of transmitting a principal downlink channel, and means of transmitting at least one supplementary channel*”).

On the other hand, in CHAUDHURI the first communication channel and the second communication channel are implemented by distinct base stations. As described in paragraphs [0040] and [0041], the first communication channel (DPCH) is implemented by a “current base station” and the second communication channel (CCPCH) is implemented by a “neighboring base station”.

In consequence, the second communication channel (CCPCH) of CHAUDHURI is not a supplementary channel as recited in the present claims.

In order to better differentiate the present claims from CHAUDHURI, claim 19 is amended to recite the following limitation: “said supplementary channel and said symmetric two-directional principal channel being implemented by a same base station.”

The Applicant agrees with the Examiner on the fact that CHAUDHURI does not disclose that the supplementary channel is for downlink only.

In addition, CHAUDHURI fails to disclose offsetting the beginning of at least one sub-frame of the supplementary channel by a time interval with a determined duration not equal to zero with respect to a determined time on the principal channel, since the supplementary channel as recited in the present claims does not exist in CHAUDHURI.

C. LI

LI describes (see figure 11) a wireless communication device comprising a CDMA transmitter (1101), a CDMA receiver (1102) and an OFDM transmitter (1103).

LI's technique is not aiming to solve the technical problem of synchronizing a supplementary channel associated to a principal channel.

As a consequence, LI fails to disclose the following feature:

“the beginning of at least one sub-frame of the supplementary channel is offset by a time interval with a determined duration not equal to zero (Δt) with respect to a determined time (t_0) on the principal channel, so as to enable synchronization of the supplementary channel at sub-frame

level in a terminal, by detection of said determined time (t_0) and by adding said time interval (Δt)”.

D. Combination of CHAUDHURI and LI

Even if these two references were combined as suggested by the Examiner, the Examiner should agree that the combination of CHAUDHURI and LI documents is not relevant to Applicant's claims since the proposed combination clearly does not suggest at least the following feature:

“the beginning of at least one sub-frame of the supplementary channel is offset by a time interval with a determined duration not equal to zero (Δt) with respect to a determined time (t_0) on the principal downlink channel, so as to enable synchronization of the supplementary channel at sub-frame level in a terminal, by detection of said determined time (t_0) and by adding said time interval (Δt)”.

Regarding all the aforementioned arguments, it appears that the claims are new and non-obvious.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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